

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 63. (currently amended) A system for detecting the growth of microorganisms in a sample in a container, comprising:

a plurality of containers; and

an apparatus, the apparatus comprising:

a module comprising a plurality of openings configured for receiving said containers;

a laser that emits ~~adapted to emit~~, through at least one of said containers~~container~~, radiation at a substantially single wavelength at which O₂ gas absorbs radiation;

a detector ~~adapted to detect~~that detects at least a portion of said radiation that passes through said container; and

a signal analyzer ~~adapted to analyze~~that analyzes said detected radiation, wherein the signal analyzer determines at least one parameter selected from the group consisting of the pressure in the container, the existence of O₂ gas in the container, and the concentration of O₂ gas in the container.

Claim 64. (previously presented) The system of claim 63, wherein the laser is a monomodal, distributed feedback laser.

Claim 65. (previously presented) The system of claim 63, wherein the single wavelength is approximately 761.5 nanometers.

Claim 66. (previously presented) The system of claim 63, wherein the signal analyzer determines the pressure in the container.

Claim 67. (previously presented) The system of claim 63, wherein the signal analyzer determines the existence of said O₂ gas in the container.

Claim 68. (previously presented) The system of claim 63, wherein the signal analyzer determines the concentration of said O₂ gas in the container.

Claim 69. (previously presented) The system of claim 63, wherein said signal analyzer includes a spectrography device, adapted to spectrographically analyze said detected portion of said radiation.

Claim 70. (currently amended) The system of claim 63, ~~wherein the system is adapted to hold a plurality of said containers, and~~ wherein the system further comprises a housing, adapted to house said laser and said detector, said housing being movable such that said laser and said detector are capable of being located proximate to each of said containers, sequentially in time.

Claim 71. (previously presented) The system of claim 70, wherein said containers are arranged in a plurality of rows and columns, and the housing is adapted to move along said rows and said columns.

Claim 72. (previously presented) The system of claim 70, wherein said housing is adapted to extend said laser and said detector toward each said container and to retract said laser and said detector away from each said container.

Claim 73. (currently amendment) The system of claim 63, ~~wherein the system is adapted to hold a plurality of said containers,~~ wherein the system further comprises a housing having ~~at~~ the plurality of openings therein, each said opening adapted to receive one of said containers, and wherein the housing is movable such that each of said containers is capable of being moved proximate to said laser and said detector.

Claim 74. (previously presented) The system of claim 73, wherein said housing is substantially circular, wherein said openings are disposed circumferentially about said housing, and wherein said housing rotates to move said containers proximate to said laser and said detector.

Claim 75. (canceled)

Claim 76. (previously presented) The system of claim 63, wherein the system comprises a plurality of said lasers and a plurality of said detectors.

Claim 77. (currently amended) The system of claim 63, wherein said ~~container~~ comprises containers comprise a sample vial having a neck, and wherein said laser ~~emits~~ is adapted to emit said radiation through said neck.

Claim 78. (canceled)

Claim 79. (currently amended) A system for detecting the growth of microorganisms in a sample in a container, comprising:

a plurality of containers; and

an apparatus, the apparatus comprising:

a module comprising a plurality of openings configured for receiving said containers;

a laser ~~adapted to emit~~ that emits, through at least one of said ~~containers~~ container, radiation at a substantially single wavelength of approximately 2.004 micrometers at which CO₂ gas absorbs radiation;

a detector ~~adapted to detect~~ that detects at least a portion of said radiation that passes through said container; and

a signal analyzer ~~adapted to analyze~~ that analyzes said detected radiation of approximately 2.004 micrometers, wherein the signal analyzer determines at least one parameter selected from the group consisting of the pressure in the container, the existence of CO₂ gas in the container, and the concentration of CO₂ gas in the container.

Claim 80. (previously presented) The system of claim 79, wherein the laser is a monomodal, distributed feedback laser.

Claim 81. (previously presented) The system of claim 79, wherein the signal analyzer determines the pressure in the container.

Claim 82. (previously presented) The system of claim 79, wherein the signal analyzer determines the existence of said CO₂ gas in the container.

Claim 83. (previously presented) The system of claim 79, wherein the signal analyzer determines the concentration of said CO₂ gas in the container.

Claim 84. (previously presented) The system of claim 79, wherein said signal analyzer includes a spectrography device, adapted to spectrographically analyze said detected portion of said radiation.

Claim 85. (currently amended) The system of claim 79, ~~wherein the system is adapted to hold a plurality of said containers, and~~ wherein the system further comprises a housing, adapted to house said laser and said detector, said housing being movable such that said laser and said detector are capable of being located proximate to each of said containers, sequentially in time.

Claim 86. (previously presented) The system of claim 85, wherein said containers are arranged in a plurality of rows and columns, and the housing is adapted to move along said rows and said columns.

Claim 87. (previously presented) The system of claim 85, wherein said housing is adapted to extend said laser and said detector toward each said container and to retract said laser and said detector away from each said container.

Claim 88. (currently amended) The system of claim 79, ~~wherein the system is adapted to hold a plurality of said containers, and~~ wherein the system further comprises a housing having at the plurality of openings therein, each said opening adapted to receive one of said containers, and wherein the housing is movable such that each of said containers is capable of being moved proximate to said laser and said detector.

Claim 89. (previously presented) The system of claim 88, wherein said housing is substantially circular, wherein said openings are disposed circumferentially about said housing, and wherein said housing rotates to move said containers proximate to said laser and said detector.

Claim 90. (canceled)

Claim 91. (previously presented) The system of claim 79, wherein the system comprises a plurality of said lasers and a plurality of said detectors.

Claim 92. (previously presented) The system of claim 79, wherein said container comprises a sample vial having a neck, and wherein said laser emits is ~~adapted to emit~~ said radiation through said neck.

Claim 93. (canceled)

Claim 94. (currently amended) A system for detecting the growth of microorganisms in a sample in a container, comprising:

a plurality of containers; and

an apparatus, the apparatus comprising:

a module comprising a plurality of openings configured for receiving said containers;

a laser that emits ~~adapted to emit~~, through said container, radiation at a substantially single wavelength at which a gas selected from the group consisting of NH_3 , H_2S , CH_4 and SO_2 absorbs radiation;

a detector ~~adapted to detect~~that detects at least a portion of said radiation that passes through said container; and

a signal analyzer ~~adapted to analyze~~that analyzes said detected radiation, wherein the signal analyzer determines at least one parameter selected from the group consisting of the pressure in the container, the existence of said gas in the container, and the concentration of said gas in the container.

Claim 95. (previously presented) The system of claim 94, wherein the laser is a monomodal, distributed feedback laser.

Claim 96. (previously presented) The system of claim 94, wherein said gas is NH_3 and said wavelength is approximately 1.997 micrometers.

Claim 97. (previously presented) The system of claim 94, wherein said gas is H_2S and said wavelength is approximately 1.570 micrometers.

Claim 98. (previously presented) The system of claim 94, wherein said gas is CH₄ and said wavelength is approximately 1.650 micrometers.

Claim 99 (previously presented) The system of claim 94, wherein said gas is SO₂ and said wavelength is approximately 7.28 micrometers.

Claim 100. (previously presented) The system of claim 94, wherein the signal analyzer determines the pressure in the container.

Claim 101. (previously presented) The system of claim 94, wherein the signal analyzer determines the existence of said gas in the container.

Claim 102. (previously presented) The system of claim 94, wherein the signal analyzer determines the concentration of said gas in the container.

Claim 103. (previously presented) The system of claim 94, wherein said signal analyzer includes a spectrography device, adapted to spectrographically analyze said detected portion of said radiation.

Claim 104. (presently amended) The system of claim 94, ~~wherein the system is adapted to hold a plurality of said containers, and~~ wherein the system further comprises a housing, adapted to house said laser and said detector, said housing being movable such that said laser and said detector are capable of being located proximate to each of said containers, sequentially in time.

Claim 105. (previously presented) The system of claim 104, wherein said containers are arranged in a plurality of rows and columns, and the housing is adapted to move along said rows and said columns.

Claim 106. (previously presented) The system of claim 104, wherein said housing is adapted to extend said laser and said detector toward each said container and to retract said laser and said detector away from each said container.

Claim 107. (presently amended) The system of claim 94, ~~wherein the system is adapted to hold a plurality of said containers,~~ wherein the system further comprises a housing having at the plurality of openings therein, each said opening adapted to receive

one of said containers, and wherein the housing is movable such that each of said containers is capable of being moved proximate to said laser and said detector.

Claim 108. (previously presented) The system of claim 107, wherein said housing is substantially circular, wherein said openings are disposed circumferentially about said housing, and wherein said housing rotates to move said containers proximate to said laser and said detector.

Claim 109. (canceled)

Claim 110. (previously presented) The system of claim 94, wherein the system comprises a plurality of said lasers and a plurality of said detectors.

Claim 111. (currently amended) The system of claim 94, wherein ~~said container comprises~~ containers comprise a sample vial having a neck, and wherein said laser emits ~~is adapted to emit~~ said radiation through said neck.

Claim 112. (canceled)